

Translation

PATENT COOPERATION TREATY  
PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>R 43517</b>	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. <b>PCT/AT2004/000143</b>	International filing date (day/month/year) <b>29.04.2004</b>	Priority date (day/month/year) <b>29.04.2003</b>
International Patent Classification (IPC) or national classification and IPC		
Applicant <b>FISCHER ADVANCED COMPOSITE COMPONENTS AG</b>		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																								
<p>4. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/AT2004/000143

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

international search (Rule 12.3 and 23.1(b))  
 publication of the international application (Rule 12.4)  
 international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

the international application as originally filed/furnished  
 the description:  
 pages 1-9 \_\_\_\_\_ as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:  
 nos. 1-13 \_\_\_\_\_ as originally filed/furnished  
 nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19  
 nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:  
 sheets 1/5-5/5 \_\_\_\_\_ as originally filed/furnished  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (specify): \_\_\_\_\_  
 any table(s) related to sequence listing (specify): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (specify): \_\_\_\_\_  
 any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	<u>1-13</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>2, 3, 5, 6</u>	YES
	Claims	<u>1, 4, 7-13</u>	NO
Industrial applicability (IA)	Claims	<u>1-13</u>	YES
	Claims	_____	NO

## 2. Citations and explanations (Rule 70.7)

1. This report makes reference to the following documents:

D1: DD 140 172 A (DEUTSCHE POST, INSTITUT FÜR POST-  
UND FERNMELDWESEN), 13 February 1980 (1980-02-13)  
D2: PATENT ABSTRACTS OF JAPAN, Vol. 0061, No. 29 (P-  
128), 15 July 1982 (1982-07-15) & JP 57 054832 A  
(HITACHI LTD), 1 April 1982 (1982-04-01)

## 2. INDEPENDENT CLAIM 1

2.1 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 1 does not involve an inventive step (PCT Article 33(3)).

2.1.1 Document D1 is regarded as the prior art closest to the subject matter of claim 1 and discloses (the references in parentheses are to that document) a process for testing components which contain cavities (page 1, paragraph 1); the surface at least on one side of the component being tested is entirely wetted with a foaming

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Box No. V	<p><u>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</u></p> <p>testing liquid (abstract), and the surface being tested is checked for bubble formation (abstract; page 1, paragraph 2).</p> <p>2.1.2 The subject matter of claim 1 therefore differs from the disclosure of D1 in that the component is exposed to a temperature increase.</p> <p>2.1.3 The present invention can therefore be considered to address the problem that these processes only permit leaks to be searched in the components by means of gases under pressure. In most processes it is possible to supply a pressurised gas. When the component has closed cavities, this is not possible.</p> <p>2.1.4 The solution proposed in claim 1 of the present application cannot be considered inventive (PCT Article 33(3)) for the following reasons. A person skilled in the art knows that it is possible to vary gas pressure in closed cavities having a constant volume by modifying the temperature. This principle is known in the field of testing for leaks. For example, components are immersed in a warm bath in order to heat them and increase gas pressure (as in document D2, for example; see the abstract). If the cavities in the component being tested were closed and a person skilled in the art wanted to use the process known from D1, he would increase the pressure in the cavities without supplying pressurised gas. He would heat the component.</p>
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Box No. V      Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

2.1.5 Consequently, a person skilled in the art would combine all the features disclosed in D1 and D2 in order to solve the stated problem, without being inventive. The solution proposed in independent claim 1 therefore cannot be considered inventive (PCT Article 33(3)).

## 3. DEPENDENT CLAIMS 4 AND 7-13

Claims 4 and 7-13 do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT novelty or inventive step requirements; see documents D1 and D2 and the corresponding passages indicated in the search report.

## 4. DEPENDENT CLAIMS 2 AND 5

The combination of features in dependent claims 2 and 5 is neither known from nor suggested by the available prior art, for the following reasons:

- claim 2: the cooling of the component before the surface being tested is wetted makes it possible to apply said process to components which cannot be easily heated because of their complex shapes;
- claim 5: heating an entire liquid bath requires much energy. Energy can be saved by heating the component by means of radiation.